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TypeScript Fundamentals

Course #: TS100 **Duration:** 1 day

Prerequisites

Students should have a good understanding of HTML5, CSS3 and JavaScript

Details

TypeScript is a cutting-edge, open-source programming language that is a superset of JavaScript. TypeScript makes available today programming features that are planned for inclusion in future releases of JavaScript. TypeScript source code compiles to plain JavaScript, so it can be used in projects targeting any browser on any host with any operating system.

This course prepares students with the fundamentals of TypeScript for use within modern web applications built using popular frameworks like Angular, Node.js, React, Knockout, WeChat and others.

Software Needed

TypeScript 2.7 or higher

Outline

TypeScript Fundamentals

- **Introduction to TypeScript**
  - What is TypeScript?
  - How to Install TypeScript
  - Let, Const, Block Scope and Module Scope
  - Template Strings
  - Arrow Functions
  - Compiling TypeScript With Options
  - Install and Use Typings
  - Install and Use TSLint
- **Types in TypeScript**
  - Primitive Types
  - Enums and Tuples
  - Symbols
  - Union Types
  - Intersection Types
  - Nullable Types With -- strictNullChecks
- **Classes**
  - Encapsulation and Scope
  - Properties

    - Methods
    - Constructors and Parameter Properties
    - Inheritance
- **Interfaces and Namespaces**
    - Creating Interfaces
    - Implementing Interfaces
    - Anonymous Interfaces
    - Type Guarding
    - Organizing Code in Namespaces
- **Generics**
    - Generic Functions
    - Generic Classes
    - Generic Constraints
- **Appendix A: Decorators**
    - Decorators, Decorator Factories and Composition
    - Class Decorators
    - Method Decorators
    - Property Decorators
    - Parameter Decorators